

Claims

[c1] What is claimed is:

1.A method of detecting a data structure of data in an optical storage device, the method comprising:

- (a) providing a first 8-bit register connected between an eight-to-fourteen modulator and a leading zero counter;
- (b) storing the 8 least significant bits of data output from the eight-to-fourteen modulator in the first 8-bit register; and
- (c) calculating a number of leading zeros stored in the first 8-bit register with the leading zero counter.

[c2] 2.The method of claim 1 wherein step (c) further comprises:

detecting the number of leading zeros of the least significant bits stored in the first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

[c3] 3.The method of claim 1 further comprising:

- (d) providing a second 8-bit register connected between the eight-to-fourteen modulator and a trailing zero counter;

(e) storing the 8 most significant bits of the data output from the eight-to-fourteen modulator in the second 8-bit register; and

(f) calculating a number of trailing zeros stored in the second 8-bit register with the trailing zero counter.

[c4] 4.The method of claim 3 wherein step (f) further comprises:

detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

[c5] 5.The method of claim 1 further comprising:

(d) connecting the first 8-bit register between the eight-to-fourteen modulator and a trailing zero counter;

(e) storing the 8 most significant bits of the data output from the eight-to-fourteen modulator in the first 8-bit register; and

(f) calculating a number of trailing zeros stored in the first 8-bit register with the trailing zero counter.

[c6] 6.The method of claim 5 wherein step (f) further comprises:

detecting the number of trailing zeros of the most sig-

nificant bits stored in the first 8-bit register, if the most significant bits stored in the first 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

- [c7] 7.A method of detecting a data structure of data in an optical storage device, the method comprising:
- (a) providing a second 8-bit register connected between an eight-to-fourteen modulator and a trailing zero counter;
 - (b) storing the 8 most significant bits of data output from the eight-to-fourteen modulator in the second 8-bit register; and
 - (c) calculating a number of trailing zeros stored in the second 8-bit register with the trailing zero counter.

- [c8] 8.The method of claim 7 wherein step (c) further comprises:
- detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the second 8-bit register.

- [c9] 9. The method of claim 7 further comprising:
- (d) providing a first 8-bit register connected between the

eight-to-fourteen modulator and a leading zero counter;
(e) storing the 8 least significant bits of the data output from the eight-to-fourteen modulator in the first 8-bit register; and
(f) calculating a number of leading zeros stored in the first 8-bit register with the leading zero counter.

[c10] 10. The method of claim 9 wherein step (f) further comprises:
detecting the number of leading zeros of the least significant bits stored in the first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

[c11] 11. The method of claim 7 further comprising:
(d) connecting the second 8-bit register between the eight-to-fourteen modulator and a leading zero counter;
(e) storing the 8 least significant bits of the data output from the eight-to-fourteen modulator in the second 8-bit register; and
(f) calculating a number of leading zeros stored in the second 8-bit register with the leading zero counter.

[c12] 12. The method of claim 11 wherein step (f) further comprises:
detecting the number of leading zeros of the least sig-

nificant bits stored in the second 8-bit register, if the least significant bits stored in the second 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the second 8-bit register.